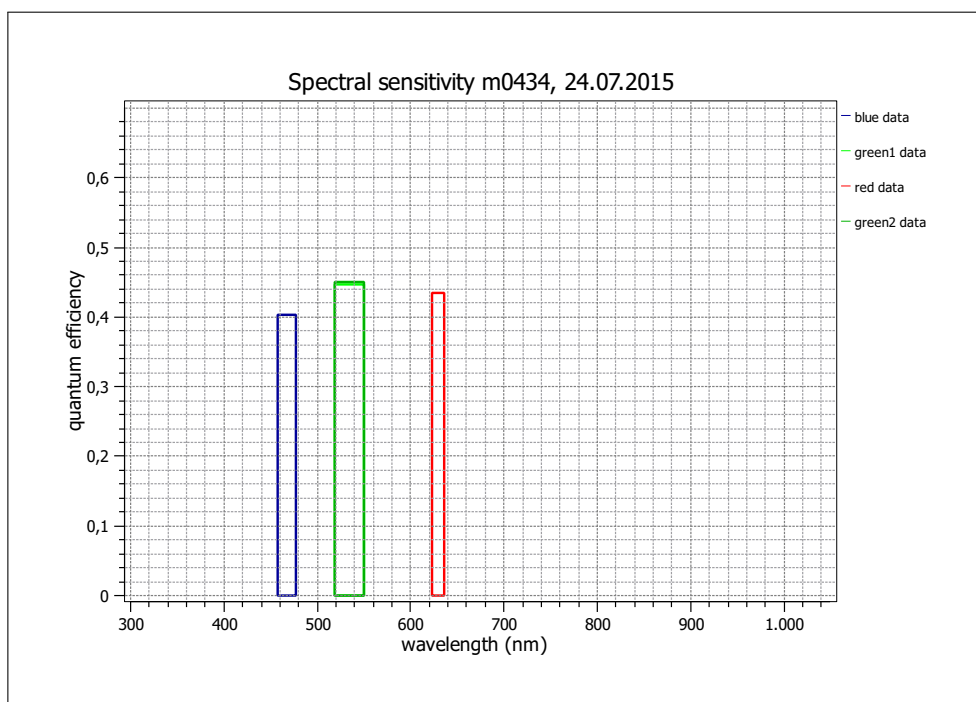


EMVA 1288 Summary Sheet

This datasheet describes the specification according to the standard 1288 for Characterization and Presentation of Specification Data for Image Sensors and Cameras of the European Machine Vision Association (EMVA)(see www.standard1288.org). The measurements were performed with an AEON ACC3 RGB Release 3, 20.01.2104, SN 0005() . The performance parameters and estimated accuracy of the measurements are described in the technical report for the instrument, its calibration in the corresponding calibration report.

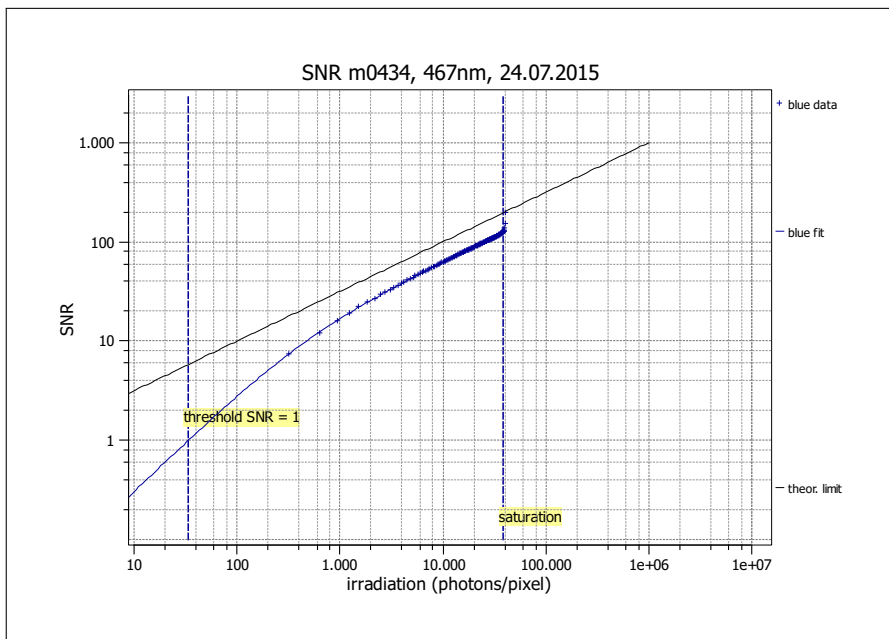
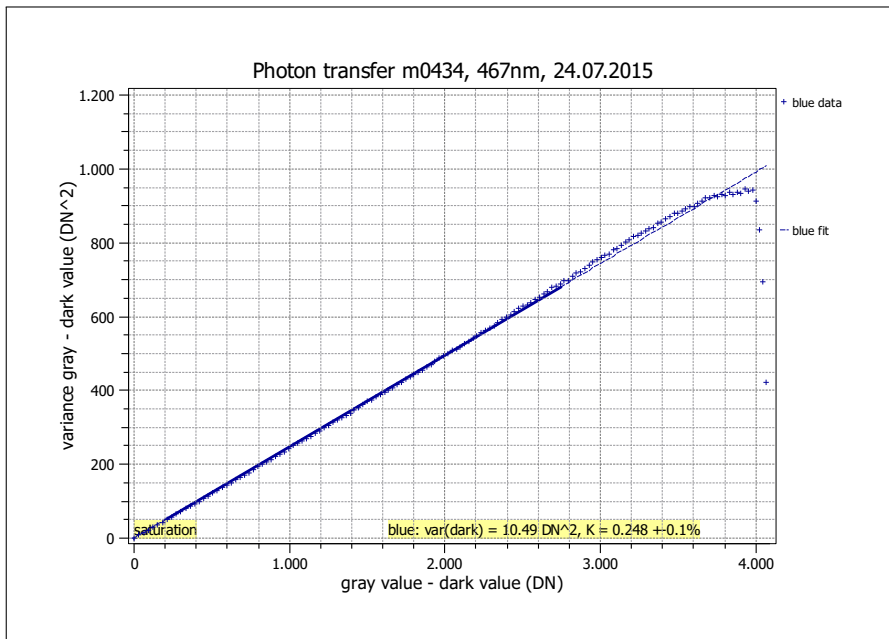
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-XD124aC
Serial number	GX201866
Sensor diagonal	11.01 mm
Lens category	C-Mount
Resolution	1936 × 1460, 12 bit
Pixel size	4.54 μm × 4.54 μm
Sensor type	CCD
Readout type	Progressive
Transfer type	Interline
Maximum frame rate	28.1 Hz
Interface type	GigE Vision

Type of data presented	Single
Operation point 1, (page 5)	
Wavelength centroid	467.3 nm
Wavelength FWHM	20.5 nm
Gain, offset	Gain = -6dB, Offset = 0.1
Operation point 2, (page 10)	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = -6dB, Offset = 0.1
Operation point 3, (page 15)	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = -6dB, Offset = 0.1
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

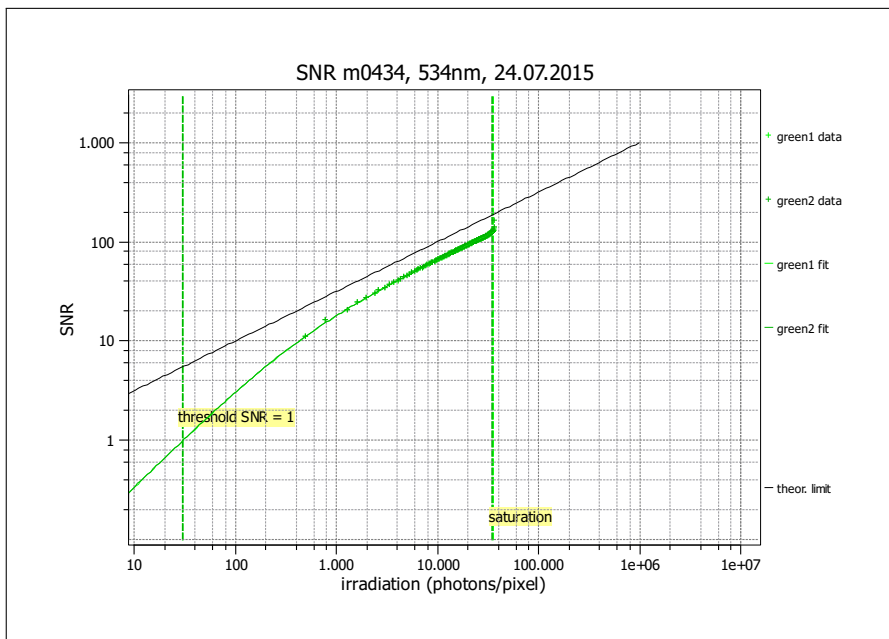
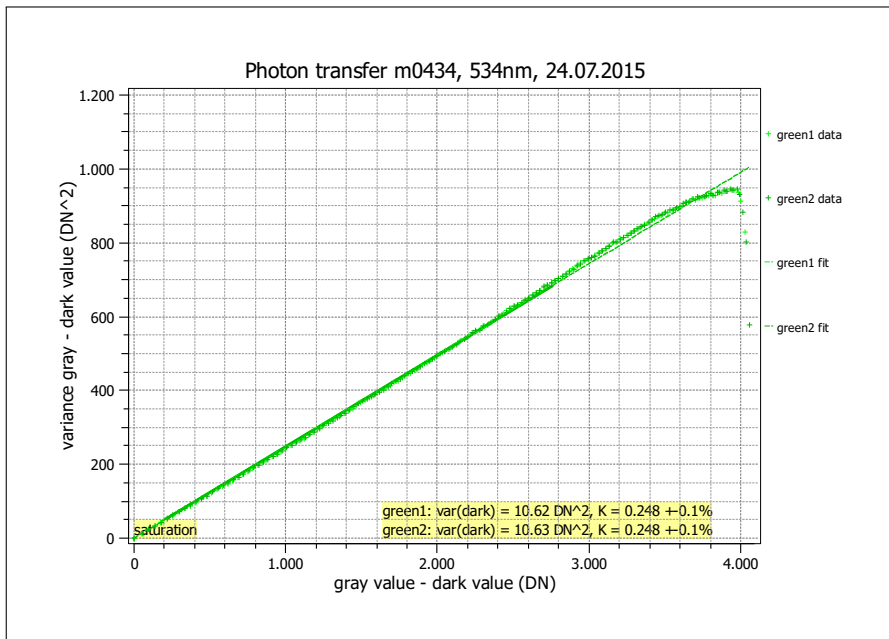
Type of data	Single	Gain, offset	Gain = -6dB, Offset = 0.1
Exposure time	17.0 ms	Environmental temperature	27.4°C
Frame rate	0.0 Hz	Camera temperature	47.6°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
η	0.403
Gain	
K (DN/e)	0.248
$1/K$ (e/DN)	4.034
Dark noise & DSNU	
σ_d (DN)	3.24
σ_0 (e)	13.0
DSNU ₁₂₈₈ (DN)	—
DSNU ₁₂₈₈ (e)	—
Signal-to-noise ratio & PRNU	
SNR _{max}	125
SNR _{max} (dB)	42.0
SNR _{max} (bits)	7.0
$1/\text{SNR}_{\text{max}}$ (%)	0.80
PRNU ₁₂₈₈ (%)	—
Nonlinearity	
LE (%)	0.42
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	33.7
$\mu_{e,\text{min}}$ (e)	13.6
$\mu_{p,\text{sat}}$ (p)	38882
$\mu_{e,\text{sat}}$ (e)	15672
Dynamic range	
DR	1154
DR (dB)	61.2
DR (bit)	10.2
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—

EMVA 1288 Summary Sheet for Operating Point 2

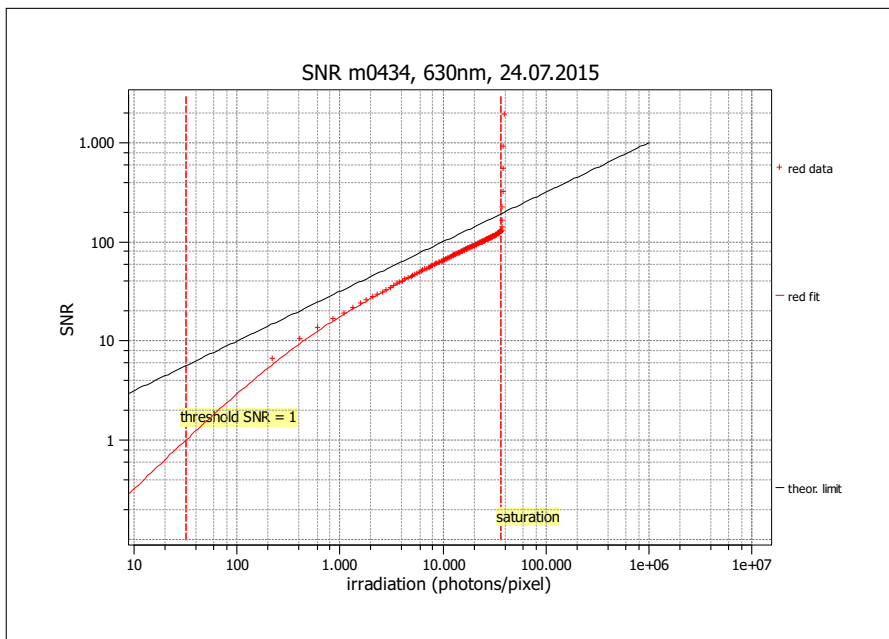
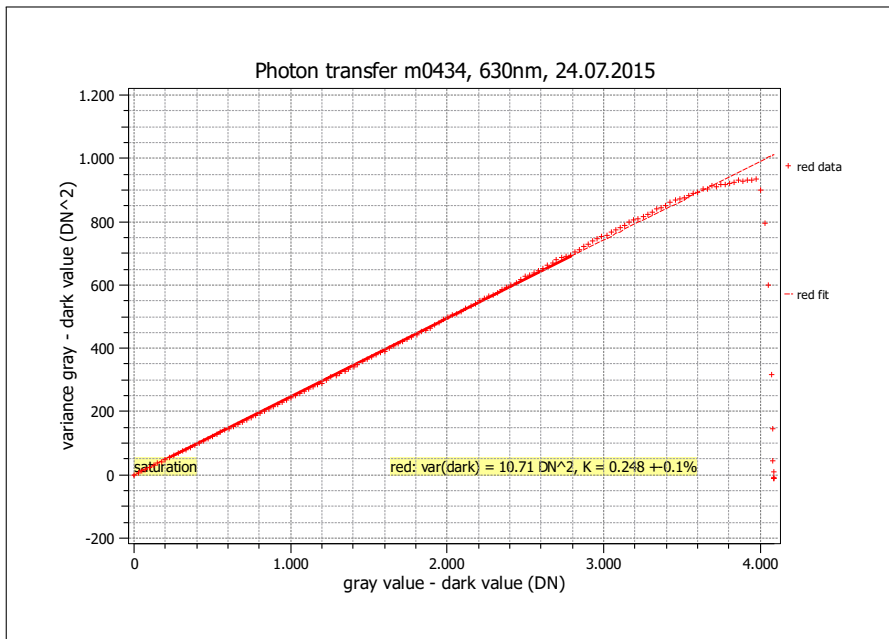
Type of data	Single	Gain, offset	Gain = -6dB, Offset = 0.1
Exposure time	17.0 ms	Environmental temperature	27.4°C
Frame rate	0.0 Hz	Camera temperature	47.6°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
η	0.446
Gain	
K (DN/e)	0.248
$1/K$ (e/DN)	4.037
Dark noise & DSNU	
σ_d (DN)	3.26
σ_0 (e)	13.1
DSNU ₁₂₈₈ (DN)	—
DSNU ₁₂₈₈ (e)	—
Signal-to-noise ratio & PRNU	
SNR _{max}	126
SNR _{max} (dB)	42.0
SNR _{max} (bits)	7.0
$1/\text{SNR}_{\text{max}}$ (%)	0.79
PRNU ₁₂₈₈ (%)	—
Nonlinearity	
LE (%)	0.32
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	30.6
$\mu_{e,\text{min}}$ (e)	13.7
$\mu_{p,\text{sat}}$ (p)	35652
$\mu_{e,\text{sat}}$ (e)	15909
Dynamic range	
DR	1164
DR (dB)	61.3
DR (bit)	10.2
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—

EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = -6dB, Offset = 0.1
Exposure time	17.0 ms	Environmental temperature	27.4°C
Frame rate	0.0 Hz	Camera temperature	47.6°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
η	0.435
Gain	
K (DN/e)	0.248
$1/K$ (e/DN)	4.040
Dark noise & DSNU	
σ_d (DN)	3.27
σ_0 (e)	13.2
DSNU ₁₂₈₈ (DN)	—
DSNU ₁₂₈₈ (e)	—
Signal-to-noise ratio & PRNU	
SNR _{max}	127
SNR _{max} (dB)	42.1
SNR _{max} (bits)	7.0
$1/\text{SNR}_{\text{max}}$ (%)	0.79
PRNU ₁₂₈₈ (%)	—
Nonlinearity	
LE (%)	0.36
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	31.6
$\mu_{e,\text{min}}$ (e)	13.7
$\mu_{p,\text{sat}}$ (p)	36911
$\mu_{e,\text{sat}}$ (e)	16039
Dynamic range	
DR	1168
DR (dB)	61.3
DR (bit)	10.2
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—